CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

Part I: Course Information

Course Type
☒ Existing/Restructured
☐ New Course

Course Prefix & Number: **BIOL 2320**

Texas Common Course Number (TCCN): **2320**

Course Title: **Microbiology for Non-Science Majors**

Course Catalog Description

Microbiology for Non-Science Majors (4,3,3). The morphology, physiology, and classification of microorganisms and their relationship to health, medicine, immunology and biotechnology. Laboratory study emphasizes standard microbiology procedures.

Course Prerequisites:

Available Online?
☐ Yes
☒ No

Part II: THECB Course Objectives

Upon successful completion of this course, students will:

1. To identify and describe aspects of Prokaryotic cell structure and relate this to the function of bacteria and the survival characteristics of bacteria.
2. To describe the universally accepted system of classifying living organisms and relate this to the characteristics of the different Kingdoms.
3. To identify and describe the functional and structural differences between DNA and RNA and relate these differences to cell functions.
4. To identify and describe key elements of Cellular Respiration, including Glycolysis, the Krebs cycle, and Electron transport.
5. To identify and describe the key steps in DNA Replication, Transcription, and Translation.
6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases.
7. To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule.
8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV.

See attached syllabus.

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Part III: THECB Skill Objectives
1. Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. Empirical and Quantitative Skills: to include applications of scientific and mathematical concepts.
4. Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Part IV: Course Student Learning Outcomes (SLO)
Upon successful completion of this course, students will:

1. To identify and describe aspects of Prokaryotic cell structure and relate this to the function of bacteria and the survival characteristics of bacteria.
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See attached syllabus.

Skill Objective:	**Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

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THECB Course Objective	(SLOs #6, 7, 8) 6. To identify and describe different ways in which microscopic pathogens can be transmitted to humans, and relate this to examples of infectious diseases. 7. To identify and describe the make-up of the main types of vaccines, and relate this to the recommended vaccine schedule. 8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV
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General Learning Activities	In this exercise, students work in groups on a lab write-up that involves two case studies regarding actual patients. The case studies include clinical signs and symptoms, lab results that include blood cell counts, and test results such as ELISA, PPD, Western Blot. Students play the roles of medical technologist and physician. They are required to understand how the lab tests are performed and how to draw conclusions from the results. The students are allowed to use notes and textbook to answer questions about the two cases. Students work in groups and agree on one diagnosis and answer for the group reports. See attached activity.
Assessment ***Must Include Assignment & Rubric***	Grade, see attached rubric.

Skill Objective:	**Communication Skills:** to include effective written, oral, and visual communication
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Skill Objective:	**Empirical and Quantitative Skills:** to include applications of scientific and mathematical concepts.
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Skill Objective:	**Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
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	8. To identify and describe the main components of antibody-mediated immunity and cell-mediated immunity, and relate this to the infectious process of HIV
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